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Beef quality assurance “down under”

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Australia exports approximately 60 percent of beef production and

Handbook Updates

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Commodity Programs for Crops—File A1-32 (6 pages)

Buying Used Machinery—File A3-22 (2 pages)

Transferring Ownership of Farm Machinery—File A3-32 (3 pages)

Identity Preserved Crops—File A4-53 (5 pages)

Specialty Markets Bring Different Risk Management Needs—File A4-55 (4 pages)

Operating Leverage—C1-45 (3 pages)

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New Zealand exports 85 percent. Because they depend on a diverse set of export customers, these countries are developing quality assurance (QA) programs that differentiate their beef in domestic and global markets and assure individual customers that the product is safe and meets customer needs. Whereas most U.S. producers think of quality in terms of USDA grades (Prime, Choice, Select), Australian and New Zealand supply chains strive to meet the mark of quality as defined by their customers. In striving to break out of the commodity market, supply chains in the two countries typically provide more information about their products and strive to improve product quality.

Australian experience

Australia has taken an industrial approach toward QA by investing producer “checkoff”

funds and processor contributions to develop tools and make them available to all Australian supply chains. QA objectives are clearly identified:

- Demonstration of food safety, along with a DNA sampling protocol for trace-back considerations
- Long shelf life
- Proof of quality for export through a national identification system
- Determination of customer preferences

The QA system in Australia is voluntary and is led by national government agencies and a single industry entity, Meat and Livestock Australia (MLA). Different QA programs

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require different levels of documentation, depending on market needs. The Australian Lot Feeder's Accreditation (ALFA) program, for example, is a significant element of the overall program. Grain-fed beef comprises a fraction of total production but represents the highest value outcome and appears to be a growing activity, especially for export. Because grain feeding is not the norm in Australia, the ALFA program quantifies the term "grain fed" and assures Japanese buyers of the extent of grain feeding.

Quality assurance programs

Control systems in Australia consist of a quality protocol called Cattle Care, used for management in conjunction with the Australian Quality Inspection Service (AQIS) and for control of exports to ensure food safety. In response to organochlorine residues found in meat in the 1980s, ISO (International Organization of Standardization), Codex Alimentarius, and HACCP (Hazard Analysis Critical Control Points) concepts were used to create Cattle Care, which is an ISO auditable system. Approximately 25 percent of all Australian herds are raised under this system. AusMeat, an Australian producer-packer consortium, audits the Cattle Care auditors to ensure that standards are being maintained. This system has been expanded to include other species and crop farm usage as well.

Cattle Care meets the ISO 9000 requirement that products be identified and traced to the degree necessary to maintain product integrity using existing infrastructure. For example, the NLIS (National Livestock Identification Scheme) is a trace-back system developed and operated by MLA that uses radio-frequency identification tags and a single national database to provide real-time, on-line system of individual animal identification.

Demand for this program is driven by the European Union, which would not renew Australian export access without a trace-back system. If Japan ever requires a comparable system for imported beef, Australia has the infrastructure in place.

Other systems, ranging from a tail tag system to radio frequency identification tags with serial number coding, are also in use. More sophisticated systems are in developmental stages and face many of the same problems as U.S. systems face. In addition, a National Vendor Declaration form is required with each lot of cattle sold, providing information about the seller and production methods.

One feature of the Australian beef-processing industry is that cattle are washed before entering the kill floor. This practice is not unique to Cattle Care but is consistent with QA. It is believed that washing helps keep bacteria from entering the plant, and wet cattle do not throw off dander, dust, or other particles into the plant air. This practice could be a significant component of the extended shelf life (120 days or more) claimed by Australian processors.

Meat Standards Australia

The MSA (Meat Standards Australia) grading system is a voluntary QA program that uses a series of objective pre-harvest and post-harvest measures or interventions (e.g., cooking, aging) to predict eating satisfaction (tenderness, juiciness, flavor). Meat is graded on a primal or subprimal basis, so it is possible that cuts from the same carcass may have different grades and that a cut could improve in grade based on intervention. Packers, retailers, and restaurants that use the MSA system and make the "guaranteed tender" promise are audited, and blood samples for DNA analysis are taken from each carcass (while it is still identified for the seller) for trace-back on an as-needed basis. The MSA grading system is more complex than the USDA system, provides more information to the buyer and seller, and places greater emphasis on eating satisfaction.

Purpose of quality assurance

The purpose of these QA programs is to enhance Australian beef in terms of integrity and value to the end user. One commonality is that the programs are built with industry and government cooperation but are voluntarily adopted by individual producers or processors. Perhaps most importantly, this investment in

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expensive research and development of infrastructure allows smaller supply chains to adopt the systems and differentiate their products in the marketplace. Also, because the programs are voluntary rather than mandatory, supply chains can separate from the commodity market using tangible information and technology to add value to their products.

New Zealand experience

Unlike the Australian system, QA programs in New Zealand are strictly voluntary and are led primarily by processors based on private entity participation. New Zealand virtually eliminated government subsidies to agriculture in the mid-1980s and has since taken a more individual approach to production and marketing. Firms are encouraged to develop and implement QA programs with their producers and suppliers to meet market demand. Because the QA programs are unique to the processor and some switching costs are involved, New Zealand producers are loyal to their chosen processor.

Government inspectors inspect plants to assure safety and wholesomeness but do not appear to be heavily involved in program development or research. New Zealand plants are inspected by and certified to standards set by each importing country and are often inspected by individual companies to which they sell. If a company has customers from both the United States and Europe, that company also has the required programs to ensure access to both markets.

Quality assurance programs

The New Zealand meat industry has many small beef or beef/lamb processing plants, but four firms (two of which are cooperatives) are dominant. An example of a private QA program is that of Richmond, Ltd., a stockholder-owned company that is one of the four large meat processors and the largest beef processor in New Zealand. The Richmond Farm Assurance program allows participating producers to receive a small premium for selling their product to Richmond, Ltd. Independent auditors conduct on-farm audits, with the cost of audits being paid by Richmond, Ltd. Both plant and on-farm

audits are also conducted by Richmond's large customers, including Marx and Spencer from the United Kingdom and McDonalds and Burger King. Richmond, Ltd. is also developing the "Green Tick" program, which will include environmental standards audited to ISO 14000 standards and will be incorporated into the existing QA program.

The New Zealand industry is creating a system that will contain many of the same elements as Australia's Cattle Care system, but with participation on a processor-by-processor basis. It appears the system is in an early stage. Also, participants in the New Zealand meat industry have just voted to require identification for traceability purposes in beef and venison. A pending study of how to achieve that goal economically, and a requirement to similarly identify sheep because of their much greater numbers, has been delayed.

Because New Zealand firms must shoulder the entire burden of investment in development costs, the meat industry may be slower to develop such programs. This factor may explain some of the differences noted between the two countries' QA systems. At the same time, New Zealand processors look to their major export customers for minimum requirements for market access and company-specific QA innovations allow their supply chains to distance themselves from the commodity market.

Quality assurance to compete

Australia and New Zealand each have multiple export customers, often with unique demands. Documenting and proving production processes, expected eating experiences, and the unique features of beef products to diverse consumers is necessary for these two countries to compete in multiple markets. To a degree, the value of using a quality management system to gain competitive advantage in a specific industry depends on the amount of differentiation that is possible among players in terms of perceived product quality and peripheral issues such as product integrity. In mature industries such as processed meat, even a small differentiation

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can be enough to provide a competing organization with a decided advantage.

US experience

Beef production and marketing are more standardized in the United States than in either Australia or New Zealand. U.S. exports account for less than 10 percent of production, and U.S. consumers by and large still trust the USDA to ensure beef safety and to provide quality indicators using quality grades. There is perhaps less incentive to differentiate one's product based on safety (if it is all safe) or quality (if it is all graded the same). Generally, differentiation is achieved by sorting commodity beef and trying to receive a higher overall value rather than producing a non-commodity product. Most U.S. customers are satisfied with the existing commodity system, and risk-averse producers are reluctant to adopt and/or document production practices that increase cost without some assurance of higher revenues in return. Processors continue to rely on post-harvest treatment of commodity beef to add value by sorting, packag-

ing, preparing, or advertising for changing consumer needs. They only need a safe raw product.

Supply chains

Slowly and from a small base, some individual supply chains in the United States are breaking away from the commodity model. Perhaps the closest system the United States has to Australian system is the USDA Process-Verified Beef program, which is not widely used but could be adopted by several supply chains. New differentiated supply chains are focusing on production practices (e.g., natural) or genetics and often require additional documentation and quality assurance programs. Likewise, export markets may require additional information to access markets. These changes may provide U.S. producers with economic incentives to follow the lead of Australian and New Zealand systems.

Access the full version of this study at the MATRIC Internet site (<http://www.matric.iastate.edu>) or order a copy through CARD at 515-294-1183.

Are exports a dependable base for farm prosperity?

by Otto Doering, professor; and Michael Boehlje, professor, Purdue University; and Neil Meyer, University of Idaho.

What sounds sensible (export more) when heard separately in each country becomes nonsense when aggregated around the world. No one can have more net exports unless someone else has more net imports.

—Thurow, Lester. 1999. *Building Wealth: The New Rules for Individuals, Companies and Nations in a Knowledge-Based Economy*. Harper Collins, New York, p. 71.

Background

We have a strong relationship between exports and farm prosperity in the United States. From the early 1900s to the early 1920s, increasing prices and export volumes made farming unusually prosperous and boosted land values. During World War II and its aftermath, another boom in prices and exports was experienced. A third

boom occurred in the 1970s, which peaked in 1981. All the prosperous periods were the result of political decisions or crop failures.

If we calculated the full cost of exports, including government support to farmers, transportation subsidies, damage to the environment, etc., sometimes we ended up exporting commodities below our full internal costs of production.

High commodity prices encourage all farmers to produce more. The high prices in 1995-97 certainly helped bring about our current oversupply of commodities. We know that increasing U.S. commodity prices through high loan rates in the 1970s increased the prices for farmers beyond our borders. We changed our policies in 1985 to avoid this by moving to lower loan rates and depending more on deficiency payments